



# CAIT

Center for Advanced Infrastructure & Transportation  
Rutgers, The State University of New Jersey

## QUARTERLY PROGRESS REPORT

Project Title:	Operational Improvements at Traffic Circles (Project 2002-16)		
RFP NUMBER:		NJDOT RESEARCH PROJECT MANAGER: Robert Sasor	
TASK ORDER NUMBER/Study Number: 129 / 4-26544		PRINCIPAL INVESTIGATOR: Kaan Ozbay (Rutgers) / George List (RPI)	
Study Start Date: 01/01/2002 Study End Date: 12/31/2004		Period Covered: 3 <sup>rd</sup> Quarter 2003	

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Phase 1: Preliminary Literature Search	5%	50%	100%	5%
Phase 2				
Task 1: Literature Review	10%	50%	75%	7.5%
Task 2: Selection and Use of Computer Tool.	30%	100%	100%	2.5
Task 3: Evaluation of Operational Alternatives.	30%			
Task 4: Safety Evaluation	20%			
Task 5: Cost – Benefit Analysis	10%			
Tasks 6: Final Recommendations	5%			
Tasks 7: Administration / Final Report.	10%			
<b>TOTAL</b>				15%

### 1. Progress this quarter by task:

- Phase 1: Preliminary Literature Search is complete.
- Task 1: This Task is complete except the safety issues. As part of this task, we also reviewed the following topics:
  - Available simulation models that can be used for the modeling of traffic circles
  - Related studies published in the open literature
  - Papers dealing with Operation improvement applicable to traffic circles
  - Data needs for the validation and calibration of traffic simulation model to be used to model the selected circles
- Task 2: Based on our review of the literature and available simulation models, we recommended Paramics as the simulation tool. On July 24<sup>th</sup> 2003, project Team at Rutgers had a meeting with Mike Asson and Bob Sasor of NJDOT where this recommendation was discussed after a demonstration of the capabilities of the recommended simulation tool. Paramics was approved as the simulation tool to be used in this study.
- We completed the preliminary modeling of the three circles namely, Brooklawn, Collingswood and Asbury Circles
- We conducted site visits to all three circles to determine the best set-up for data collection using POGO tool.

### 2. Proposed activities for next quarter by task

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Department of Civil and Environmental Engineering  
623 Bowser Rd. Piscataway NJ 08854-8014  
Tel : 732-445-0579 Fax: 732-445-0577



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- Data collection
- Data processing and analysis
- Calibration of simulation models
- Completion of the literature review
- Completion of an interim report for the first two tasks.

3. List of deliverables provided in this quarter by task (product date)

- Technical memorandum on the computer software package that will accurately model traffic circles and effectively simulate traffic movements with animated graphics.

4. Progress on Implementation and Training Activities

5. Problems/Proposed Solutions

We received the final task order from NJDOT in order to start the work.

6. Budget Summary\*

Total Project Budget(# of years)	1 Year	\$ 141,040.00
Total Project Expenditure to date		\$20,000
% of Total Project Budget Expended		14%
Task Order Number/Study Number:		129 / 4-26544
Current Task Order Budget (# of years)	Year 1	\$ 141,040.00
Actual Expenditure to date against current task order		\$20,000
% of current task order budget expended		14%

\* These are approximate expended amounts for the project; these estimates are for reference only and should not be used for official accounting purposes. For a more accurate project accounting please review the quarterly invoice for this project.

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